

SECTION 01 33 33
ENVIRONMENTAL SUBMITTALS**PART 1 GENERAL****1.1 DESCRIPTION**

- A. This section is an overview of the special environmental submittal requirements of the project. It is the goal of this project to construct a "green" building that meets the US Green Building Council's LEED-NC Green Building Rating System Version 2.2 with a certification goal of LEED Silver Certification.

1.2 RELATED WORK

- A. Coordinate requirements of this Section with: Section 01.33.23 - Shop Drawings, Product Data, and Samples.
- B. Coordinate requirements of this Section with: Section 01.81.13 - Sustainable Design Requirements.
- C. Coordinate requirements of this Section with: Section 01.81.19 - Indoor Air Quality Requirements.
- D. Division 02 through 34: Individual sections for LEED requirements specific to the work of each of these sections. Requirements may or may not include reference to LEED.

1.3 ENVIRONMENTAL SUBMITTAL DEFINITIONS AND CRITERIA

- A. Resource Efficient Product Data Submittal Criteria:
1. Environmental Issues Data: Includes manufacturer's certifications, verifying information, and test data, where specification Sections require data relating to environmental issues including but limited to:
 - a. Project Recyclability: Submit information to assist Resident Engineer and Contractor in recycling materials involved in shipping, handling, and delivery, and for temporary materials necessary for installation of products.
 - b. Recycled Content: Submit information regarding product post-industrial and post-consumer recycled content.
 - c. Product Recyclability: Submit information regarding product and product's components recyclability including potential sources accepting recycled materials.
 - d. Provide certification for all wood products provided by a Forest Stewardship Council (FSC) accredited certifier.
 - e. Provide final certification of well managed forest of origin to provide final documentation of certified sustainability harvested status: Acceptable wood "certified sustainably harvested" certifications shall include:

- 1) Wood suppliers' certificate issued by one of the Forest Stewardship Council (<http://www.fscoax.org/principal.htm>) accredited certifying agencies, such as the Smart Wood Program (www.smarftwood.org) or Scientific Certification Systems (www.scs1.com).
- 2) Suppliers invoice detailing the quantities of certified wood products for project.
- 3) Letter from a certifying agency corroborating that the products on the wood supplier's invoice originate from certified well-managed forests.

B. Indoor Air Quality Data Submittal Criteria:

1. Indoor Air Quality (IAQ) Environmental Testing Data: Submit emissions test data produced by acceptable testing laboratory listed in Quality Assurance Article for materials as required in each specific specification section.
 - a. Laboratory reports shall contain emissions test data on VOCs including total VOCs (TVOC), specific individual VOCs, formaldehyde and other aldehydes.
 - b. In special cases it may be necessary to identify other specific chemical for listing based on known quantity present or on known odor, irritation or toxicity.
 - c. Identify all VOCs emitted by each material as required in these specifications.
 - d. Specific test conditions and requirements are set forth in this Project Manual. For required tests, submit documentation of sample acquisition, handling, and test specimen preparation, as well as test conditions, methods, and procedures. General test requirements include:
 - 1) Tests consist of a ten-day conditioning period followed by a 96 hour test period.
 - 2) Samples collected during the test period at 24, 48, and 96 hours shall be analyzed for TVOC and formaldehyde.
 - 3) VOC samples collected at 96 hours shall be identified and quantified for all compounds that are Chemicals of Concern on lists identified in this Project Manual.
2. Cleaning and Maintenance Products: Provide data on manufacturers' recommended maintenance, cleaning, refinishing and disposal procedures for materials and products. These procedures are for final Contractor cleaning of the project prior to substantial

completion and for provided materials and products as required by the specific specification sections.

C. Environmental Issues Certifications:

1. Includes documentation certifying accuracy of post-industrial and post-consumer recycled content, and recyclability of product.
2. Prior to Final Completion, submit certificate signed by corporate office holder (Chairman of the Board, President, Vice President, Secretary, or similar position of authority) of contractor, subcontractor, supplier, vendor, installer or manufacturer, provided they are primarily responsible for manufacture of product, including:
 - a. Post-industrial and post-consumer recycled content of materials installed are same as those required by Project requirements.
 - b. Product recyclability of materials installed are same as those required by Project requirements.
 - c. Indoor air quality requirements: Certification shall state products and materials provided are essentially the same, and contain essentially the same components as products and materials tested.

- D. Environmental Closeout Submittals: Includes data relating to environmental issues, and environmental product certifications.

1.4 ENVIRONMENTAL SUBMITTALS (REQUIRED UNDER THIS SECTION):

- A. General: Comply with additional environmental submittal requirements included in other sections of the Specifications.
- B. Environmental submittals are in addition to other submittals. If submitted item is identical to that submitted to comply with other requirements, submit duplicate copies as a separate submittal to verify compliance with indicated environmental and LEED requirements.
- C. Project Materials Cost Data: At close of Project, provide statement indicating total cost for building materials used for Project. Include statement indicating total cost of mechanical and electrical components.
- D. Environmental Action Plans: Provide preliminary submittals within 14 days of date established for the Notice to Proceed indicating how the following requirements will be met.
 1. LEED Credit MR 2.1 and 2.2, Construction Waste Management, Recycled Construction Waste: Waste management plan to comply with the goal of recycling or salvaging at least 75% of the non-hazardous construction and demolition debris. Plan should identify materials to be diverted from a landfill, whether waste will be sorted on-site or commingled, and identify recyclers or hauler.

2. LEED Credit MR 3.1 and 3.2, Resource Reuse: List of proposed salvaged and refurbished materials.
 - a. Identify each material that will be salvaged or refurbished, its source, and cost.
 3. LEED Credit MR 4.1 and 4.2, Recycled Content: List of proposed materials with recycled content.
 - a. Indicate cost, post-consumer and pre-consumer (post-industrial) recycled content for each product having recycled content.
 4. LEED Credit 5.1 and 5.2, Local/Regional Materials: List of proposed regionally manufactured materials [and regionally extracted, harvested, or recovered materials].
 - a. Identify each regionally manufactured material, its source, and cost.
 - b. Identify each regionally extracted, harvested or recovered material, its source, and cost.
 5. LEED Credit MR 7.0, Certified Wood: List of proposed certified wood products.
 - a. Indicate each product containing certified wood, its source, and cost.
 - b. Include statement indicating total cost for wood-based materials used for Project, including non-rented temporary construction.
 6. LEED Credit EQ 3.1, Construction IAQ Management Plan: Construction indoor air quality (IAQ) management plan to meet the SMACNA IAQ Guideline for Occupied Buildings under Construction criteria.
- E. Environmental Progress Reports: Concurrent with each Application for Payment, submit reports comparing actual construction and purchasing activities with environmental action plan for the following:
1. LEED Credit MR 2.1 and 2.2, Construction Waste Management: Waste reduction progress reports. Include separate report for demolition and construction waste. Include the following information:
 - a. Material category.
 - b. Generation point of waste.
 - c. Total quantity of waste in tons.
 - d. Quantity of waste salvaged, both estimated and actual in tons.
 - e. Quantity of waste recycled, both estimated and actual in tons.
 - f. Total quantity of waste recovered (salvaged plus recycled) in tons.
 - g. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.

2. LEED Credit MR 3.1 and 3.2, Resource Reuse: Salvaged and refurbished materials.
3. LEED Credit MR 4.1 and 4.2, Recycled Content: Recycled content.
4. LEED Credit MR 5.1 AND 5.2, Local/Regional Materials: Materials that are both regionally manufactured and regionally harvested or extracted.

1.5 ENVIRONMENTAL DOCUMENTATION SUBMITTALS
(REQUIRED IN DIVISIONS 02 THROUGH 34)

A. Environmental Documentation Submittals:

1. LEED Credit SS 7.1, Reduce Heat Islands: Product Data for paving materials indicating Solar Reflectance Index (SRI).
2. LEED Credit SS 7.2, Reduce Heat Islands: Product Data for roofing materials indicating Energy Star Compliance and Solar Reflectance Index (SRI).
3. LEED Credit SS 8.0, Light Pollution Reduction: Product Data for interior and exterior lighting fixtures that stop direct-beam illumination from leaving the building site.
4. LEED Credit WE 3.1 and 3.2, Water Use Reduction: Product Data for plumbing fixtures indicating water consumption.
5. LEED Prerequisite EA 3.0, CFC Reduction in HVAC&R Equipment: Product Data for new HVAC equipment indicating absence of CFC refrigerants.
6. LEED Credit EA 4.0, Enhanced Refrigerant Management: Product Data for new HVAC equipment indicating refrigerant type and charge (lb/ton), and for clean-agent fire extinguishing systems indicating absence of CFCs, HCFC and Halon.
7. LEED Credit MR 2.1 and 2.2, Construction Waste Management:
 - a. Construction Waste Management Plan.
 - b. Records of Donations or Sales: Indicate receipt and acceptance of salvageable waste donated or sold to individuals and organizations. Indicate whether organization is tax exempt.
 - c. Recycling and Processing Facility Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
 - d. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
8. LEED Credit MR 4.1 and 4.2, Recycled Content: Product Data and certification letter indicating percentages by weight of post-

- consumer and pre-consumer (post-industrial-recycled content for products having recycled content). Include statement indicating costs for each product having recycled content.
9. LEED Credit MR 5.1 and 5.2, Local/Regional Materials: Product Data indicating location of material manufacturer for regionally manufactured and harvested materials.
- a. Include statement indicating cost and distance from manufacturer to Project for each regionally manufactured material.
 - b. Include statement indicating cost and distance from point of extraction, harvest, or recovery to Project for each raw material used in regionally manufactured materials.
10. LEED Credit MR 6.0, Rapidly Renewable Materials: Product data for rapidly renewable materials.
- a. Include statement indicating costs for each rapidly renewable material.
11. LEED Credit MR 7.0, Certified Wood: Product Data and certificates of chain-of-custody for products containing certified wood.
- a. Include statement indicating costs for each product containing certified wood.
 - b. Include statement indicating total cost for wood-based materials used for Project, including non-rented temporary construction.
12. LEED Credit EQ 1, Outdoor Air Delivery Monitoring: Product Data for carbon dioxide monitoring system and outdoor air monitoring products.
13. LEED Credit EQ 3.1, Construction IAQ Management Plan, During Construction:
- a. Construction indoor air quality management plan.
 - b. Product Data for temporary filtration media.
 - c. Construction Documentation: Six photographs at three different occasions during construction along with a brief description of the SMACNA approach employed, documenting implementation of the IAQ management measures, such as protection of ducts and on-site stored or installed absorptive materials.
14. LEED Credit EQ 3.2, Construction IAQ Management Plan, Before Construction:
- a. Signed statement describing the building air flush-out procedures including the dates when flush-out was begun and completed and statement that filtration media was replaced after flush-out.
 - b. Product Data for filtration media used during flush-out and during occupancy.

- c. If air testing used instead of a prescribed building flush-out, provide report from testing and inspecting agency indicating results of IAQ testing and documentation showing conformance with IAQ testing procedures and requirements.
- 15.LEED Credit EQ 4.1, Low-Emitting Materials, Adhesives and Sealants: Product Data and Material Safety Data Sheets (MSDSs) for adhesive and sealant used on the interior of the building indicating VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D (EPA method 24).
- 16.LEED Credit EQ 4.2, Low-Emitting Materials, Paints and Coatings: Product Data and material safety data sheets (MSDSs) for paints and coating used on the interior of the building indicating chemical composition and VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D (EPA method 24).
- 17.LEED Credit EQ 4.3, Low-Emitting Materials, Carpet: Product Data for carpet products indicating VOC content of each product used.
- 18.LEED Credit EQ 4.4, Low-Emitting Materials, Composite Wood and Agrifiber Products: Product Data for composite wood and agrifiber products indicating that products contain no urea-formaldehyde resin.
- a. Include statement indicating adhesives and binder used for each product.
- 19.LEED Credit EQ 5, Indoor Chemical & Pollutant Source Control: Product Data indicating MERV 13 filters installed on all air handling units.
- 20.LEED Credit EQ 6.2, Controllability of Systems, Individual Controls: Product Data for sensors and control system used to provide individual airflow and temperature controls.

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